REMARKS

The present Amendment is in response to the Office Action having a mailing date of August 27, 2004. Claims 1-9 are rejected. Claims 10-20 have been added by this amendment. Consequently, claims 1-20 remain pending in the present application.

Claim Rejections-35 USC 102

The Examiner stated,

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Malec et al. (5,295,064). Malec et al. discloses a shopping system comprising a shopping cart including a plurality of wheels a portable electronic device, coupled to the shopping cart for displaying shopping data (Column 1 lines 58-64); an energy generator coupled to one of the plurality of wheels for adding energy to a power source of the portable electronic device on a shopping cart (Column 9 lines 50-52);

a portable electronic device, coupled to the shopping cart for displaying shopping data and a position mapping system, coupled to the portable electronic device, for developing a shopper location relative to a start location (Column 1 lines 58-66), the mapping system including a distance measuring system coupled to one of the plurality of wheels for providing a distance signal indicating a distance of movement of the shopping cart; and a direction measuring system for providing a direction signal concurrent with the distance signal (Column 33 lines 57-65)...

Applicant has amended claims 1 and 2 to clarify the invention. Claim 1 recites a shopping system comprising a shopping cart including a plurality of wheels, a portable electronic device, coupled to the shopping cart, for displaying shopping data; a distance measuring system, coupled to at least one of the plurality of wheels, for providing a distance signal based on the movement of the wheel and indicating a distance of movement of the shopping cart; and an energy generator, coupled to at least one of the plurality of wheels, for adding energy to a power source of the portable electronic device.

The Examiner stated that Malec et al. ("Malec") discloses a mapping system including a distance measuring system coupled to one of the plurality of wheels for providing a distance signal

indicating a distance of movement of the shopping cart. However, Malec does not disclose this feature. Malec discloses a mapping system that includes a number of stationary "trigger transmitters" 512 that are placed on store shelves (col. 5, lines 13-22; col. 8, lines 41-51). The trigger transmitters emit wireless trigger transmissions that are received by the cart electronics 514 when a shopping cart passes nearby, and the cart electronics then display a stored message (i.e., an advertisement) to the shopper that corresponds to the received trigger transmission (col. 5, lines 7-22, col. 8, lines 52-65). The cart electronics stores received trigger transmissions to log where the cart has been (col. 8, lines 66-68, col. 9, line 1). The cart electronics includes an RF loop antenna coil (col. 17) or infrared receiver (col. 18) to receive the trigger transmissions.

There is no mention or suggestion in Malec of a distance measuring system that is coupled to one of the wheels, for providing a distance signal based on the movement of the wheel and indicating a distance of movement of the shopping cart. As explained above, Malec discloses providing stationary transmitters on store shelves or other designated store locations and the cart detecting the transmitted signals wirelessly, and mentions nothing about indicating a distance of movement of a shopping cart based on movement of a wheel on the shopping cart. Malec determines where a shopping cart has been by logging received wireless transmissions, not using cart wheel movement. Thus, Malec's system has the disadvantages of prior art systems, in which a store operator must install and maintain many transmitters at the store location with great effort and cost, and which Applicant's invention avoids.

The Examiner cited col. 33 in his rejection of these features. However, col. 33 describes the electronics on the shopping cart keeping a log of wireless trigger signals received to track the route of the shopping cart through the store, and mentions nothing about providing a distance signal

based on wheel movement to indicate distance of cart movement. In view of the foregoing, Applicant believes that claim 1 is patentable over Malec.

New claims 10 and 11 are dependent on claim 1 and are believed patentable over Malec for at least the same reasons as claim 1, and for additional reasons. For example, claim 10 recites that a distance measuring system and energy generator are coupled to the same wheel (disclosed in Applicant's specification on page 5, lines 22-23), which is not disclosed or suggested by Malec. Claim 11 recites that the distance measuring system indicates a distance of movement of the shopping cart by measuring a number of whole or partial rotations of the wheel (disclosed in Applicant's specification on page 6, lines 1-4), which is not disclosed or suggested by Malec.

Claim 2 recites a shopper tracking system comprising a shopping cart including a plurality of wheels, a portable electronic device, coupled to the shopping cart, for displaying shopping data, and a position mapping system for developing a shopper location relative to a start location. The mapping system includes a distance measuring system, coupled to at least one of the plurality of wheels, for providing a distance signal based on the movement of the wheel and indicating a distance of movement of the shopping cart, and a direction measuring system for providing a direction signal concurrent with the distance signal. As explained for claim 1 above, Malec does not disclose or suggest a distance measuring system providing a distance signal based on the movement of the wheel and indicating a distance of movement of the shopping cart. Applicant therefore believes that claim 2 is patentable over Malec.

With respect to claims 3-9, the Examiner stated that Malec discloses

...a position locating system, coupled to the portable electronic device for entering absolute coordinates of the start location (Column 8 lines 66-Column 9 line 3);

a merchandise reader coupled to the portable electronic device for detecting the shopper tracking system comprising merchandise identification data from a merchandise element proximate the portable electronic device and a database coupled to the portable electronic device,

for storing absolute coordinate data for the merchandise element, the POS device using the absolute coordinate data of the merchandise element to adjust the shopper location (Column 2 line 29-39);

wherein the merchandise reader is a bar code scanner and the merchandise identification data is a UPC bar code (Column 2 lines 18-19);

wherein the database is remotely located relative to the portable electronic device and the portable electronic device is coupled to the database using a wireless transmission system (Column 2 lines 9-28);

wherein the database is written into a memory of the portable electronic device (Column 4 lines 33-43);

wherein the portable electronic device enters a reduced power consumption mode when the distance measuring signal indicates that the shopping cart has not moved at least a first threshold distance within a second threshold period (Column 11 lines 6-16).

Claims 3-9 are dependent from claim 2 and are patentable for at least the same reasons as claim 2 and for additional reasons. For example, claim 4 recites a merchandise reader that detects merchandise identification data from a proximate merchandise element, and a database storing absolute coordinate data for the element, the absolute data used to adjust shopper location. Malec does not disclose this feature. Col. 2, lines 29-39 of Malec, cited by the Examiner, merely disclose that transmitters on store shelves are used to inform the cart of its location and orientation. These transmitters are not merchandise elements that provide merchandise identification data; Malec's transmitters are simply transmitters, unidentified with any particular merchandise, and spaced around a location to provide a location signal indicating an absolute position. The transmitters' location might indicate a particular section or aisle in a store, but they do not identify any particular merchandise element. Applicant's claim, in contrast, recites a merchanise element that provides merchandise identification, and the identity of the merchandise element is what is used to provide absolute coordinate data for that element from the database.

Claim 5, amended for clarity, recites that the merchandise reader is a bar code scanner and the merchandise identification data is a UPC bar code associated with the merchandise element.

Malec's col. 2, lines 18-19, cited by the Examiner, do not disclose or suggest this feature; the cited lines disclose that UPC symbols are associated with a message that is to be displayed on a cart's electronic device (to ensure that advertised products are present in the store, col. 7, lines 55-61), and mention nothing about detecting UPC symbols for determining absolute coordinate data as recited by Applicant. As to claim 7, there is no disclosure in Malec of merchandise identification data and the absolute coordinates of merchandise elements being stored in the cart electronic device. As to claim 8, there is no disclosure in Malec regarding a merchandise reader and merchandise identification data from a merchandise element, similar to claim 4.

New claims 12-17 are dependent from claim 2 and are patentable for at least the same reasons as claim 2 and for additional reasons. For example, claim 12 recites that the absolute coordinate data is not used to adjust the shopper location if it designates a location that is more than a threshold distance away from the relative shopper location (disclosed in Applicant's specification on page 9, lines 14-17), which is not disclosed by Malec. Claim 13 recites measuring wheel rotations (disclosed in Applicant's specification on page 6, lines 1-4), which is not disclosed by Malec. Claim 14 recites a direction-sensing device that provides the direction signal without the use of signals originating externally from the shopping cart (disclosed in Applicant's specification on page 8, lines 4-11), which is not disclosed by Malec, who uses external transmitters to determine direction. Claims 15-17 recite features for providing direction (disclosed in Applicant's specification on page 8, lines 4-11), which are not disclosed by Malec.

New independent claim 18 recites a shopper tracking system, including a shopping cart including a plurality of wheels, a portable electronic device, coupled to the shopping cart, for displaying shopping data, and a position mapping system. The mapping system includes a relative positioning system, coupled to one of the plurality of wheels of the shopping cart, for determining

the distance and direction the shopping cart has moved relative to a start location based on movement of the wheel, to determine the location of the shopping cart within a predetermined area, and an absolute positioning system in communication with the portable electronic device for establishing an absolute position of the shopping cart within the predetermined area, wherein the absolute position is used to adjust the location of the shopping cart. Relative and absolute positioning systems are discussed throughout Applicant's specification, e.g., pages 8-9. This claim is believed patentable over Malec for at least similar reasons to those explained above for claims 1 and 2. Claims 19 and 20 are dependent on claim 18 and are believed patentable for at least the same reasons as claim 18, and for additional reasons similar to those explained above for claims 11 and 4, respectively.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

SAWYER LAW GROUP LLP

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Joseph A. Sawyer, Jr.
Attorneys for Applicant
Registration No. 30,801